

CLAIM AMENDMENTS

Please cancel claims 1, 3, 5, 6, 10, 12 -14 and 16.

Please amend claims 2, 4, 7, 15, 22, 40, 41 and 53 as set forth below.

1. (canceled)

2. (currently amended) A computer implemented method for modeling work processes comprising:

~~instantiating~~ generating a plurality of ~~objects~~ concrete classes by customizing one or more abstract ~~or concrete~~ classes, and including either:

(1) at least a concrete decision class that models both a decision situation and data produced by said decision situation, and

requiring, for a first concrete decision class, that a second concrete decision class be a prerequisite to activation or completion of said first concrete decision class, if and only if the data modeled by said second concrete decision class is required by the decision modeled by said first decision class, or alternatively;

(2) at least a concrete decision class that models a decision situation and a concrete data class,

relating each concrete decision class ~~object~~ to one or more concrete data classes, ~~objects which it produces~~ concrete data classes model data produced by a decision situation modeled by said each concrete data class, and

requiring, for at least one concrete decision class ~~object~~, at least one concrete data class ~~object~~ as a prerequisite to its activation or completion of said one concrete

decision class, thereby establishing an interdependence between ~~the~~ said one concrete
decision class object requiring ~~said~~ data modeled by said at least one concrete data class
and the a concrete decision class object modeling the decision situation providing said
 data, and, with either alternative;

~~optionally generating~~ providing a user of said method for modeling with an ability to
generate additional subclasses ~~or instances~~ of said abstract decision and data classes.

3. (canceled)

4. (currently amended) The method of claim 2 further comprising:

providing a decision role class modeling the participation of participants in each said
decision situation,

relating said decision role class to each said decision class,

~~specialized~~ specializing said decision role class into at least two subclasses, each with
 differing behaviors, and

defining for each specialized decision role class, communication requirements among
 incumbents of roles participating in ~~a~~ said each said decision situation, and rights of each such
 specialized role class incumbent with respect to said incumbent's participation in ~~a~~ said each said
decision situation.

5. (canceled)

6. (canceled)

7. (currently amended) ~~The method of claim 6 further comprising~~ A computer implemented method of modeling and managing decision-making work processes among a plurality of participants comprising:

providing a network whose nodes are abstract decision situations,

requiring said nodes to support participation of multiple persons in differentiated roles in each of said abstract decision situations, and

providing arcs directed by decisions based on logical precedence.

8. (previously presented) The method of claim 7, further comprising

requiring that incumbents of exactly one differentiated role make a choice modeled by said abstract decision situation, and

requiring that incumbents of a second differentiated role have notice, elapsed time and access to incumbents of the first role prior to the incumbents of said first role having made said choice,

requiring that incumbents of a third differentiated role have an opportunity to inspect results of the choice made by the incumbents of the first role after said choice, and to accept or reject said results, with or without reference to established criteria, and

requiring that incumbents of a fourth differentiated role have timely notice of results of the choice made by the incumbents of the first role after said choice.

9. (previously presented) The method of claim 8, further comprising

requiring that incumbents of a fifth differentiated role have an opportunity to inspect the results of the choice made by the incumbents of the first role, and to accept or reject said results according to its conformance or non-conformance to established criteria for said results.

10. (canceled)

11. (previously presented) The method of claim 2 further comprising
providing a rule class as a subclass of the data class, and
at least one of:

(A) providing that instances of said rule class may be specified by a concrete decision class
for use to completely determine the result of instances of said decision class by choosing the value
of its associated decision's data object, and

(B) contingently determine at least one of (i) the associated decision object's requirement
for some other specific data object, (ii) the associated decision object's association with a specific
role object, (iii) the incumbent of a specific role object associated with said decision object, and (iv)
the use of a different rule object associated with said decision object.

12. (canceled)

13. (canceled)

14. (canceled)

15. (currently amended) ~~The method of claim 14 further comprising~~ A method for managing
work processes comprising

using an object-oriented application framework to build and configure decision process
models comprised of interdependent decisions.

rendering said process models as elements of a computer-based system in support of the work process,

instantiating project models as instances of said process models,

rendering said process models as directed graphs, whose nodes are concrete classes modeling decisions, and whose directed arcs or edges model dependencies between the nodal classes, and

rendering said project models as a partition of the graph of the instantiating process, where such partition is defined by a specified node from the process graph and all and only those other nodes that are dependent on said specified node, and

rendering said project models as elements of a computer-based system in support of the work process.

16. (canceled)

17. (previously presented) A computer implemented method of modeling and managing work processes comprising

using a network or graph whose nodes are abstract decision situations representing choices to be made, which choices are modeled by concrete decision classes and by instances of those classes, and

providing arc objects directed in each instance by an ordered pair of concrete decision classes associated with each arc object, where an entry or initial member of said ordered pair produces a data result required by an exit or terminal member of said ordered pair.

18. (previously presented) The method of claim 17 further comprising requiring each concrete

decision class to support participation of multiple persons in differentiated roles.

19. (previously presented) The method of claim 18, further comprising

requiring that incumbents of one differentiated role associated with a concrete decision class, make the choice modeled by said concrete decision class, and

requiring that incumbents of a second differentiated role associated with said concrete decision class, have notice, elapsed time and access to the incumbents of the first role prior to the incumbent of said first role having made said choice,

requiring that incumbents of a third differentiated role associated with said concrete decision class, have opportunity to inspect the results of the choice made by the incumbents of the first role after said choice, and to accept or reject said results without or without reference to established criteria, and

requiring that incumbents of a fourth role associated with said concrete decision class, have timely notice of the results of the choice made by the incumbents of the first role after said choice has been made.

20. (previously presented) The method of claim 19, further comprising requiring that incumbents of a fifth differentiated role associated with said concrete decision class, have the opportunity to inspect the results of the choice made by the incumbents of the first role after said choice, and to accept or reject said results, but only according to its conformance or non-conformance to established criteria.

21. (previously presented) An object-oriented application framework for building work process models comprising

(a) an abstract, extensible decision class which encapsulates the common attributes and methods needed to model a decision or choice to be made, and

an abstract, extensible data class which encapsulates the common attributes and methods needed to model a data result produced by the decision, or alternatively,

(b) a single abstract, extensible class which combines the attributes and methods of said abstract decision and data classes.

22. (currently amended) The framework of claim 21 further comprising a concrete directed arc class, which encapsulates the attributes and methods needed to model ~~the~~ a dependency relationship between concrete decision classes, or instances of those classes, at the nodes of the directed arc instances, where such dependency arises from the requirement by one decision, the terminal or exit decision, for data produced by another decision, the initial or entry decision.

23. (previously presented) The framework of claim 22 further comprising an abstract decision role class which encapsulates common attributes and methods needed to model participation of people in a decision modeled by a concrete decision class.

24. (previously presented) The framework of claim 23 further comprising a concrete decision manager class as one specialization of the decision role class, where the role modeled by said decision manager class has a right to make a decision or choice modeled by the associated concrete decision class.

25. (previously presented) The framework of claim 24 further comprising a concrete approver class as an additional specialization of the decision role class, where the role modeled by said

approver class has a right to veto said decision or choice.

26. (previously presented) The framework of claim 25 further comprising a concrete consultee class as an additional specialization of the decision role class, where the role modeled by said consultee class has a right to an opportunity to influence the decision or choice before said choice is made, but not the opportunity to veto said decision or choice.

27. (previously presented) The framework of claim 26 further comprising a concrete informee class as an additional specialization of the decision role class, where the role modeled by said informee class has a right to be timely informed of the result of making said decision or choice.

28. (previously presented) The framework of claim 27 further comprising a concrete inspector class as an additional specialization of the decision role class, where the role modeled by said inspector class has a right to veto said decision or choice, but only as it fails to meet established criteria.

29. (previously presented) The framework of claim 21 further comprising a concrete rule class as a specialization of the data class, where an instance of said rule class may be specified by a concrete decision class for use in (a) making a decision or choice modeled by said decision class, (b) contingently determining a dependency of the decision modeled by said decision class on the result of a decision modeled by some other concrete decision class, or (c) contingently determining participation and role of persons in the decision or choice modeled by said concrete decision class.

30. (previously presented) A method for managing one or more work processes comprising:

constructing a computer-based process model for each of said one or more work processes, wherein each said process model includes at least two instances of a first network;

requiring that each of said at least two instances of said first network be comprised of three or more nodes;

requiring that a first node of said three or more nodes model an activity of one of said one or more work processes;

requiring that a second node of said three or more nodes model behaviors of a first role of a first participant in said activity;

requiring that a third node of said three or more nodes model behaviors of a second role of a second participant in said activity; and

using each of said computer-based process models to support at least one of execution, control and improvement of said one or more work processes.

31. (previously presented) The method of claim 30 further comprising:

modeling each of said one or more work processes as a second network, wherein said at least two instances of said first network comprise the nodes of said second network.

32. (previously presented) The method of claim 31 further comprising:

requiring that said behaviors of said first role be identically defined for every instance of said first role modeled by an instance of said second node of said three or more nodes in each of said at least two instances of said first network; and

requiring that said behaviors of said second role be identically defined for every instance of said second role modeled by an instance of said third node of said three or more nodes in each of said at least two instances of said first network.

33. (previously presented) The method of claim 32 further comprising:
requiring that said first node of said three or more nodes be a concrete object class;
using each said computer-based process model to generate one or more project models,
wherein each of said one or more project models is an instance of a computer-based process model
from which said each of said one or more project models has been generated; and
requiring that each of said one or more project models have an object instance of each
concrete object class in said each of said one or more project models, in place of one or more
occurrences of said each concrete object class in a computer-based process model from which said
each of said one or more project models was generated.
34. (previously presented) A method for managing one or more work processes comprising:
constructing a computer-based process model of each of said one or more work processes;
requiring that each of said process models includes one or more models of decision
situations in one of said one or more work processes, wherein each of said decision situations
requires a choice to be made;
requiring that each of said process models model participation of one or more persons in
said each of said decision situations, said participation being modeled as at least two decision roles;
requiring that each of said at least two decision roles be associated with said each of said
decision situations;
requiring that said each of said at least two decision roles have defined behaviors;
requiring that said defined behaviors of said each of said at least two decision roles be
differentiated from said defined behaviors of every other one of said at least two decision roles;
requiring that said defined behaviors be invariant with respect to all of said decision

situations; and

using each of said computer-based process models to support at least one of execution, control and improvement of said one or more work processes.

35. (previously presented) The method of claim 34 further comprising:

requiring that said behaviors of each of said at least two decision roles include at least one of (i) a right of said role with respect to making a choice, (ii) a right of said role with respect to rejecting a choice, (iii) a right of said role with respect to an opportunity to influence a choice and, (iv) a right of said role with respect to being informed of a choice.

36. (previously presented) The method of claim 34 further comprising:

requiring that one of said at least two decision roles support participation of one or more persons in a decision manager role;

requiring that said one or more persons participating in said decision manager role make a choice anticipated by said decision situation associated with said decision manager role;

requiring that a second of said at least two decision roles support participation of persons in a consultee role in said decision situation associated with said decision manager role;

requiring that each of said persons participating in said consultee role be responsible for providing each of said persons participating in said decision manager role with information relevant to said decision situation;

requiring that said persons participating in said decision manager role give each of said persons participating in said consultee role: (i) a notice that said choice to be made as required by said decision situation is impending, and (ii) sufficient time between providing said notice and making said choice for said persons participating in said consultee role to have provided said

information to said persons participating in said decision manager role; and

requiring that, at the option of one or more persons constructing said computer-based process model containing said decision situation with which said any role is associated, there be zero or more persons in any one of said at least two decision roles other than said decision manager role.

37. (previously presented) The method of claim 36 further comprising:

requiring that a third of said at least two decision roles support participation of persons in an approver role;

requiring that each of said persons participating in said approver role be given a first notice of a result of said choice to be made by said persons participating in said decision manager role; and

requiring that each of said persons participating in said decision manager role refrain from implementing said choice until each of said persons participating in said approver role have given their approval of said choice.

38. (previously presented) The method of claim 37 further comprising:

requiring that a fourth of said at least two decision roles support participation of persons in an informee role; and

requiring that each of said persons participating in said informee role be given a second notice of said result of said choice made by said persons participating in said decision manager role.

39. (previously presented) The method of claim 38 further comprising:

requiring that a fifth of said at least two decision roles support participation of persons in an inspector role;

requiring that each of said persons participating in said inspector role be given a third notice of said result of said choice to be made by said persons participating in said decision manager role; and

requiring that each of said persons participating in said decision manager role refrain from implementing said result until said persons participating in said inspector role have accepted said result, wherein said acceptance shall be based exclusively on the conformance of said result to one or more predetermined criteria for said result.

40. (currently amended) The method of claim 39 further comprising:

requiring that said one or more predetermined criteria include one or more requirements relating to a context of said decision situation, including, (i) in a context requiring production of a document, that a copyright ~~notice~~ and trademark notices be displayed on said document, and (ii) in a context requiring design of a product label, that colors specified for various segments of said product label be in accordance with a label specification policy.

41. (currently amended) The method of claim 34, wherein said decision situations include a first decision situation and further comprises:

requiring, at the option of one or more persons constructing one of said computer-based process models which includes a model of said first decision situation, that a first choice required by said first decision situation be made by specifying that a result of a second decision situation of said decision situations be used as a rule to determine a result of said choice required by said first decision situation.

42. (previously presented) The method of claim 41 further comprising:

requiring, at the option of one or more persons constructing said one of said computer-based process model which includes said model of said first decision situation, that said first decision situation have a requirement for a result of a third decision situation as a prerequisite to said choice required by said first decision situation;

requiring, at the option of one or more persons constructing said one of said computer-based process model which includes said model of said first decision situation, that said requirement for said result of said third decision situation be contingent on a result of a fourth decision situation, wherein said result of said fourth decision situation is used as a rule to determine said requirement of said first decision situation;

requiring, at the option of one or more persons constructing said one of said computer-based process model which includes said model of said first decision situation, that an association of a decision role with said first decision situation be contingent on a result of a fifth decision situation, wherein said result of said fifth decision situation is used as a rule to determine said association of said decision role with said first decision situation; and

requiring, at the option of one or more persons constructing said one of said computer-based process model which includes said model of said first decision situation, that selection of a person participating in a decision role associated with said first decision situation be contingent on a result of a sixth decision situation, wherein said result of said sixth decision situation is used as a rule to determine said selection of said person participating in said decision role associated with said first decision situation.

43. (previously presented) The method of claim 34 further comprising:

requiring that each of said one or more models of decision situations be a concrete decision object class;

using each said computer-based process model to generate one or more project models, wherein each of said one or more project models is an instance of said each said computer-based process model from which said each of said one or more project models was generated; and

requiring that said each of said one or more project models have a decision object instance of each concrete decision object class in said each of said one or more project models, in place of one or more occurrences of said each concrete decision object class in said each said computer-based process model from which said each of said one or more project models has been generated.

44. (previously presented) The method of claim 43 further comprising:

providing a superclass of said concrete decision object class; and

requiring that all said concrete decision object classes be generated by customizing said superclass.

45. (previously presented) The method of claim 44 further comprising:

providing an application framework to support construction of said one or more process models;

requiring that said framework include said superclass of said concrete decision object classes;

requiring that said framework include two or more concrete decision role object classes; and

requiring that each of said two or more concrete decision role object classes models behaviors defined for one of said at least two decision roles.

46. (previously presented) A method for managing one or more work processes comprising:
constructing a computer-based process model of each of said one or more work processes,
wherein each said process model includes a network with a concrete object class at each node of
said network;

providing a customizable object class encapsulating common attributes and methods
required to model a work element of any one of said one or more work processes;

generating said concrete object class at each said node of each said process model by
customizing said customizable object class;

generating one or more project models from each said computer-based process model,
wherein each of said one or more project models includes a network with an object instance of a
concrete object class at each node;

requiring that each said object instance at the node of any of said one or more project
models be an instance of said concrete object class at a corresponding node of said process model
from which said project model has been generated; and

using said process model and said one or more project models in support of at least one of
execution, control and improvement of said one or more work processes.

47. (previously presented) The method of claim 46 further comprising

using said customizable object class to model a decision situation requiring a choice;

generating two or more concrete decision object classes by customizing said customizable
object class; and

requiring that each said concrete decision object class and each object instance of said
concrete decision object class, support participation of one or more persons in each said decision

situation.

48. (previously presented) The method of claim 47 further comprising:

requiring that said support of participation of one or more persons in said each said decision situation provide support for participation in two or more differentiated roles.

49. (previously presented) The method of claim 48 further comprising:

defining behaviors of each of said two or more differentiated roles in a concrete decision role object class; and

providing a decision role object instance of a concrete decision role object class in both said process and said project models to model each instance of a decision role associated with a decision situation.

50. (previously presented) The method of claim 49 further comprising:

requiring that said behaviors of each of said two or more differentiated roles include at least one of (i) a right of said role with respect to making a choice, (ii) a right of said role with respect to rejecting a choice, (iii) a right of said role with respect to an opportunity to influence a choice, and (iv) a right of said role with respect to being informed of a choice.

51. (previously presented) The method of claim 49 further comprising:

requiring that incumbents of a first of said two or more differentiated roles make said choice modeled by said associated decision situation;

requiring that incumbents of a second of said two or more differentiated roles at least one of (i) receive a notice that said choice is impending, (ii) have a period of elapsed time between receiving

said notice and making said choice, and (iii) have access to said incumbent of said first of said two or more differentiated roles during said period of elapsed time;

requiring that incumbents of a third of said two or more differentiated roles have an opportunity to inspect said result of said choice made by said incumbent of said first of said two or more differentiated roles, after said choice has been made, and to reject said result without reference to predetermined criteria;

requiring that incumbents of a fourth of said two or more differentiated roles receive a notice of said result, after said choice has been made; and

requiring that the number of incumbents in any one of said two or more differentiated roles associated with any said decision situation be established by one or more persons constructing a computer-based process model which contains said any said decision situation, subject to the constraint that there be at least one incumbent of said first of said two or more differentiated roles and that there be zero or more incumbents of any of said two or more differentiated roles other than said first of said two or more differentiated roles.

52. (previously presented) The method of claim 51 further comprising:

requiring that incumbents of a fifth of said two or more differentiated roles have an opportunity to inspect said result, after said choice has been made, and to reject said result based exclusively on said result's failure to conform to one or more predetermined criteria for said result.

53. (currently amended) The method of claim 52 further comprising:

requiring that said one or more predetermined criteria include one or more requirements relating to a context of said decision situation, including, (i) in a context requiring production of a document, that a copyright ~~notice~~ and trademark notices be displayed on said document, and (ii) in a

context requiring design of a product label, that colors specified for various segments of said product label be in accordance with a label specification policy.

54. (previously presented) The method of claim 47 further comprising
requiring, at the option of one or more persons constructing one of said computer-based process models, that a choice required by any one of said decision situations modeled by said computer-based model be made by specifying that a result of a second of said decision situations be used as a rule to determine a result of said choice required by said any one of said decision situations.

55. (previously presented) The method of claim 54 further comprising:
requiring, at the option of one or more persons constructing any one of said computer-based process models which includes a model of a first of said decision situations, that said first of said decision situations have a requirement for a result of a second of said decision situations, as a prerequisite to said choice required by said first of said decision situations;

requiring, at the option of one or more persons constructing said any one of said computer-based process models which includes said model of said first of said decision situations, that said requirement for said result of said second of said decision situations be contingent on a result of a third of said decision situations, wherein said result of said third of said decision situations is used as a rule to determine said requirement of said first of said decision situations;

requiring, at the option of one or more persons constructing said any one of said computer-based process models which includes said model of said first of said decision situations, that an association of a decision role with said first of said decision situations, be contingent on a result of a fourth of said decision situations, wherein said result of said fourth of said decision

situations is used as a rule to determine said association of said decision role with said first of said decision situations; and

requiring, at the option of one or more persons constructing said any one of said computer-based process models which includes said model of said first of said decision situations, that selection of a person participating in a decision role associated with said first of said decision situations, be contingent on a result of a fifth of said decision situations, wherein said result of said fifth of said decision situations is used as a rule to determine said selection of said person participating in said decision role associated with said first of said decision situations.